

**REMARKS**

Please reconsider this application in view of the above amendments and the followings remarks. Applicant thanks the Examiner for carefully reconsidering this application.

**Disposition of Claims**

Claims 1-4 are pending in this application. Claim 1 is independent. The remaining claims depend, directly or indirectly, from claim 1.

**Claim Amendments**

Claim 1 has been amended in this reply to clarify the present invention and claims 2-4 have been cancelled. Specifically, claim 1 has been amended to include limitations previously recited in claims 2-4. Thus, no new matter has been added by this reply, as support for the amendments to claim 1 may be found, for example, within the originally filed claims.

**Claim Rejections under 35 U.S.C. § 112**

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 1 has been amended in this reply. To the extent that this rejection applies to claim 1 as amended, this rejection is respectfully traversed.

With respect to claim 1, the Examiner asserts that claim 1 is incomplete for omitting essential elements, the omission of these elements amounting to a gap between the recited elements. The Examiner notes that these omitted elements include a first hinge element and a second hinge element related to the first movable member (formerly recited as the first turnable member) and the second movable member (formerly recited as the second turnable

member) to perform as an entire hinge device. Accordingly, claim 1 has been amended in this reply for the hinge device to include a first hinge member and second hinge member rotatably connected to each other about a turning axis. The first hinge member then has the first movable member attached to an end part thereof, and the second hinge member has the second movable member supported at an end part thereof. Support for this amendment may be found, for example, within former claims 3 and 4. Thus, the hinge device recited in claim 1 now includes a first hinge member with a first movable member, a second hinge member with a second movable member, and a biasing member, thereby including all the essential elements for the hinge device to be operable and complete. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of “a first, a second and a third recess” limitation recited in claim 1, the Examiner asserts that this limitation is confusing because “recess” is in singular form. Accordingly, this limitation has been amended to recite “a long recess and a short recess,” thereby correctly referring to each recess in a singular form. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of “a side part thereof” and “the opposite side to said second recess” limitations recited in claim 1, the Examiner asserts that these limitations are not clear as which elements of the claim are being defined. Accordingly, these limitations have been cancelled and replaced with “one end part” and “the other end part”, each end part defined with their respective locations. Specifically, as shown in Figures 5A and B, for example, the end parts are located at each end of the long recess 44 in a peripheral direction formed on a circumference about the turning axis, in which a first cam face 44a is disposed at one end part, and a second cam face 44b is disposed at the other end part. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of the “first cam face which is abutted with said projection part” limitation recited in claim 1, the Examiner asserts that this limitation is conditional statement that may not always be true. Accordingly, this limitation, and all similar limitations, has been amended to recite “a first cam face that, when abutted with said projection part, converts a biasing force,” thereby having claim 1 appropriately recite a conditional limitation, rather than a definitive limitation. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of “the reverse direction” limitation recited in claim 1, the Examiner asserts that this limitation is not understood. Accordingly, the limitation has been amended to recite “a direction opposite to the one direction,” thereby giving the reverse direction a frame of reference with respect to the “one direction” previously recited in claim 1. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of “a single recess as a whole” limitation recited in claim 2, the Examiner asserts that this limitation contradicts with the “first and second recesses” limitation recited in claim 1 because an element in plural form cannot later be defined in a singular form. Accordingly, the limitation of “the first and second recesses” has been amended to recite “a long recess,” thereby correctly defining each recess together within a singular form. Withdrawal of this rejection is respectfully requested.

With respect to the rejection of the “non-turnable” limitation recited in claims 3 and 4, a limitation that has been incorporated into claim 1, the Examiner asserts that this limitation cannot be understood because “non-turnable” is a relative term and must be applied to a reference. Accordingly, this limitation has been amended to recite “non-turnably about the

turning axis with respect to the (first or second) hinge member” to provide a reference. Withdrawal of this rejection is respectfully requested.

### **Claim Rejections under 35 U.S.C. § 102**

#### Rejection of Claims 1-4 under Masashi

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as anticipated by Japanese Publication No. 2003-172335A (“Masashi”). Claim 2-4 have been cancelled in this reply. Thus, this rejection is moot with respect to claims 2-4. Further, claim 1 has been amended in this reply. To the extent that this rejection applies to claim 1 as amended, this rejection is respectfully traversed.

Claim 1 recites a hinge device including a first hinge member and a second hinge member rotatably connected to each other about a turning axis, a first movable member mounted non-turnably about the turning axis with respect to the first hinge member but movably in a direction of the turning axis on an end part of the first hinge member facing the second hinge member, a second movable member supported non-turnably about the turning axis with respect to the second hinge member at an end part of the second hinge member facing the first hinge member, and biasing means for biasing at least one of the first and second movable members toward the other along the turning axis. One of the first and second movable members is provided at a confronting surface thereof with a projection part projecting toward a confronting surface of the other movable member and is pressed against the confronting surface of the other movable member by the biasing means, and the other movable member is provided at the confronting surface with a long recess and a short recess. The short recess is shorter than the long recess in length in a peripheral direction formed on a circumference about the turning axis.

Claim 1 further recites that the long recess is provided at one end part thereof in the peripheral direction with a first cam face that, when abutted with the projection part, converts a biasing force of the biasing means into a turn biasing force in one direction about the turning axis, and recites that the long recess is provided at the other end part thereof with a second cam face that, when abutted with the projection part, converts the biasing force of the biasing means into a turn biasing force in a direction opposite to the one direction. The short recess is provided at both end parts thereof in a peripheral direction of the confronting surface of the other movable member with a pair of lock faces which are abutted with both side parts of the projection part to prohibit the first and second movable members from making a relative turn with force of a predetermined magnitude. Also, the first and second cam faces are symmetrically arranged with respect to a straight line orthogonal to the turning axis and pass through a center in a peripheral direction between the pair of lock faces.

Masashi, particularly in Figure 9, shows a hinge unit 20 having a first hinge member 21 and a second hinge member 26. A first cam member 24 is attached to the first hinge member 21 with a spring 23 disposed therebetween, and a second cam member 25 is attached to the second hinge member 21. On the opposing surfaces of the first cam member 24 and the second cam member 25, a pair of cam projecting portions 24a and a pair of cam recessed portions 25a are formed about a rotating shaft 22. The cam projecting portions 24a and the cam recessed portions 25a then engage and disengage as required by operation of the hinge unit 20.

However, Applicant respectfully asserts that Masashi fails to teach all of the elements of amended independent claim 1. Claim 1 additionally requires one of the movable members to include *a long recess and a short recess* on its confronting surface. The short recess is shorter than the long recess in length in a peripheral direction formed on a circumference

about the turning axis. For example, in Figures 5A and 5B of the present application, an end face 42 of the second movable member 4, which confronts an end face 32 of the first movable member 3, includes a short recess 43 and a long recess 44. As shown then, when measured in the direction about the turning axis L of the second movable member 4, the short recess 43 is shorter in length than the long recess 44. By including a short recess and a long recess of different lengths, the first and second hinge members enable the hinge device to have multiple positions when opened and closed.

Masashi, though, does not disclose, suggest, or teach having recesses of different lengths formed in one of the faces of a movable member. Specifically, the second cam member 25, which most closely resembles the second movable member with the short and long recesses of the present application, includes the pair of cam recessed portions 25a having *identical* size and shape (shown in Figure 9 of Masashi). Thus, Masashi fails to show or suggest having a short and long recess with different lengths formed within a movable member, as required by the amended claim of the present application.

Applicant respectfully notes that in order for a claim to be anticipated, “every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim.” Brown v. 3M, 265 F.3d 1349, 1351 (Fed. Cir. 2001). In view of the above, Masashi fails to teach each limitation recited in independent claim 1, as amended, as required to support a rejection under § 102. Thus, independent claim 1 is patentable over Masashi. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection of Claims 1-4 under Imai

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,305,050 (“Imai”). Claim 2-4 have been cancelled in this reply. Thus, this rejection is moot with respect to claims 2-4. Further, claim 1 has been amended in this reply. To the extent that this rejection applies to claim 1 as amended, this rejection is respectfully traversed.

Imai provides a hinge device **10** for a foldable apparatus that includes a first disk **12** and a second disk **13**. The first disk **12** has a sliding disk **12B** that engages and slides into a sleeve-shaped main body **12A**. Further, the second disk **13** has a base plate section **13A** attached to a claw section **13B**. During operation of the hinge device **10** then, the engaging projections **12b** of the sliding disk **12B** may engage and disengage the engaging recesses **13b** of the base plate section **13A** as required.

However, as similar with Masashi, Applicant respectfully asserts that Imai fails to teach all of the elements of amended independent claim 1. Claim 1 additionally requires one of the movable members to include on its confronting surface *a long recess and a short recess*. Imai does not disclose, suggest, or teach having recesses of different lengths formed in one of the faces of a movable member. Specifically, the base plate section **13A**, which most closely resembles the movable member with the short and long recesses of the present application, includes a pair of engaging recesses **13b** having *identical* same size and shape (shown in Figure 4C of Imai). Thus, Imai fails to show or suggest having a short and long recess with different lengths formed within a movable member, as required by the amended claim of the present application.

In view of the above, Imai fails to teach each limitation recited in independent claim 1, as amended, as required to support a rejection under § 102. Thus, independent claim 1 is patentable over Imai. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection of Claims 1-4 under Oshima

Claims 1-4 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 7,251,859 (“Oshima”). Claim 2-4 have been cancelled in this reply. Thus, this rejection is moot with respect to claims 2-4. Further, claim 1 has been amended in this reply. To the extent that this rejection applies to claim 1 as amended, this rejection is respectfully traversed.

Oshima, particularly in Figures 7 and 10A, shows a hinge device 1 including a first hinge member 2 and a second hinge member 3. The first hinge member 2 has a movable member 7 attached thereto, and the second hinge member 3 includes a fixing member 5 and a main body member 4, in which the fixing member 5 mounts within the main body member 4. During operation of the hinge device 1 then, a pair of convex parts 75, provided on the movable member 7, engages a pair of concave parts 53 of the fixing member 5.

However, as similar with Masashi and Imai of above, Applicant respectfully asserts that Oshima fails to teach all of the elements of amended independent claim 1. Claim 1 additionally requires one of the movable members to include on its confronting surface *a long recess and a short recess*. Oshima does not disclose, suggest, or teach having recesses of different lengths formed in one of the faces of a movable member. Specifically, the fixing member 5, which most closely resembles the movable member with the short and long recesses of the present application, includes a pair of concave parts 53 having *identical* same size and shape (shown in Figure 10A of Oshima). Thus, Oshima fails to show or suggest having a short

and long recess with different lengths formed within a movable member, as required by the amended claim of the present application.

In view of the above, Oshima fails to teach each limitation recited in independent claim 1, as amended, as required to support a rejection under § 102. Thus, independent claim 1 is patentable over Imai. Accordingly, withdrawal of this rejection is respectfully requested.

**Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 12088/045001).

Dated: December 11, 2007

Respectfully submitted,

By 

Jonathan P. Osha  
Registration No.: 33,986  
OSHA · LIANG LLP  
1221 McKinney St., Suite 2800  
Houston, Texas 77010  
(713) 228-8600  
(713) 228-8778 (Fax)  
Attorney for Applicant